Bengal Bay Garnet

SECTION 1. IDENTIFICATION

Product Identifier	Bengal Bay Garnet
Recommended Use	Filtration sand, abrasive jet cutting and blast cleaning media.
Restrictions on Use	Use only as directed.
Manufacturer/Supplier Identifier	Opta Minerals Inc., 407 Parkside Drive P.O. Box 260, Waterdown, Ontario, Canada, L0R 2H0, (905) 689-7361, www.optaminerals.com
Emergency Phone No.	CHEMTREC (Canada & USA), 1-800-424-9300, 24 hours CHEMTREC, (outside North America), 1-703-527-3887, 24 hours
SDS No.	0993

SECTION 2. HAZARD IDENTIFICATION

Classification

Carcinogenicity - Category 1A; Specific target organ toxicity (repeated exposure) - Category 1

Label Elements

Danger

May cause cancer or damage to respiratory system through prolonged or repeated exposure by inhalation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Iron Oxide	1309-37-1	34-45	Fe2O3
Silicon Dioxide	7631-86-9	25-40	SiO2
Aluminum oxide	1344-28-1	13-20	Al2O3
Magnesium oxide	1309-48-4	4-6	MgO
Titanium Dioxide	13463-67-7	1-7	TiO2
Silica, crystalline quartz	14808-60-7	<1.0	SiO2
Calcium oxide, reacted	1305-78-8	0.5-2.5	CaO
Manganese oxide	1317-35-7	0.2-0.8	MnO

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor.

Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.
Seek immediate medical attention should irritation or pain persists.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Call a Poison Centre or doctor if you feel unwell.

Most Important Symptoms and Effects, Acute and Delayed

If in eyes:
May cause moderate to severe irritation.
May irritate or cause inflammation or pulmonary fibrosis of the respiratory system.

Immediate Medical Attention and Special Treatment

Target Organs

Respiratory system.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Specific Hazards Arising from the Product

Does not burn. NFPA Rating = 0.
Not known to generate any hazardous decomposition products in a fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up.

Environmental Precautions

Although this product is not classified as an environmentally hazardous material, large or frequent spills may cause potential problems.

Methods and Materials for Containment and Cleaning Up

Avoid generating dust. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid generating dusts. Wear personal protective equipment to avoid direct contact with this chemical.

Conditions for Safe Storage

Store in an area that is: dry.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Silicon Dioxide			5 mg/m3 *			

Iron Oxide	5 mg/m3 * A4		10 mg/m3 *			
Aluminum oxide	1 mg/m3 * A4		5 mg/m3 *			
Magnesium oxide	10 mg/m3 * A4		15 mg/m3			
Titanium Dioxide	10 mg/m3		15 mg/m3			
Calcium oxide, reacted	2 mg/m3		5 mg/m3			
Manganese oxide	0.2 mg/m3					
Silica, crystalline quartz	0.025 mg/m3 * A2					

* respirable total dust, OSHA (PEL)= 15 mg/m3 crystalline Silica, ACGIH, TWA, 0.10 mg / m3 (ACGIH), 0.025 mg /m3, respirable.

Appropriate Engineering Controls

Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible. Do not get in eyes.

Skin Protection

Avoid repeated or prolonged skin contact. Always wear insulated protective clothing, if contact is possible.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with N95 or higher rating filter(s).

In conditions where the levels of airborne dust exceed the capabilities of the above referenced respirators, a supplied-air respirator may be necessary.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Red - brown crystals.
Odour Threshold	Not applicable
pH	Not applicable
Melting Point/Freezing Point	Not applicable (freezing)
Initial Boiling Point/Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not applicable
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	Not available
Solubility	Not applicable in water
Auto-ignition Temperature	Not applicable

Other Information

Physical State	Solid
Bulk Density	2.4 kg/L

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Not applicable.

Conditions to Avoid

Generation of dust.

Incompatible Materials

Oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid).

Hazardous Decomposition Products

Not applicable.

SECTION 11. TOXICOLOGICAL INFORMATION

This product may exhibit a low level of radioactivity common to many naturally occurring minerals. The total uranium and thorium content is less than 0.05% (500ppm). Any material containing a combined total of 0.05% or more of uranium or thorium must be licensed as regulated under the Atomic Energy Control Regulation.

Likely Routes of Exposure

Inhalation. Skin contact. Eye contact. Ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Silicon Dioxide	Not available	10,000 mg/m3 (rat)	Not available
Iron Oxide	Not available	> 10,000 mg/kg (rat)	Not available
Aluminum oxide	Not available	> 5,000 mg/kg (rat)	Not available
Magnesium oxide	Not available	810 mg/kg (mouse)	Not available
Titanium Dioxide	> 6,820 mg/m3 (rat)	> 25,000 mg/kg (rat)	Not available
Calcium oxide, reacted	Not available	> 2,000 mg/kg (rat)	Not available
Manganese oxide	Not available	Not available	Not available
Silica, crystalline quartz	Not available	22,500 mg/kg (rat)	Not available

Skin Corrosion/Irritation

May cause irritation.

Serious Eye Damage/Irritation

May cause moderate to severe irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May irritate or cause inflammation or pulmonary fibrosis of the respiratory system.

Skin Absorption

May cause irritation.

Ingestion

May cause irritation.

Aspiration Hazard

May be drawn into the lungs (aspirated) if swallowed or vomited.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Long term inhalation of dusts can attribute to risk of lung diseases. Inhalation of respirable silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of silica dust may cause serious health effects which can include the following; Silicosis, Accelerated Silicosis, Acute Silicosis, Cancer,

Autoimmune Disease, Tuberculosis and Kidney Disease.

Respiratory and/or Skin Sensitization

May cause irritation on prolonged contact.

Carcinogenicity

Crystalline Silica (quartz) has been determined as carcinogen.

Reproductive Toxicity

Development of Offspring

There is no evidence this product contributes Teratogenicity or Embryotoxicity.

Sexual Function and Fertility

No ingredients in this product are known to contribute to reproductive toxicity.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

None known.

SECTION 12. ECOLOGICAL INFORMATION

Although this product is not classified as an environmentally hazardous material, large or frequent spills may cause potential problems.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Ron Harber
Phone No.	(905) 689-7361, ext 351
Date of Preparation	February 16, 2016
Key to Abbreviations	ACGIH® = American Conference of Governmental Industrial Hygienists OSHA = US Occupational Safety and Health Administration HSDB® = Hazardous Substances Data Bank
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA (“BIOVIA”). Available from Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian

Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer

To the best of our knowledge, the information contained herein is accurate.
Although certain hazards are described herein, we can not guarantee that these are the only hazards that exist.
Opta Minerals Inc. assumes no liability arising out of the use of this product by others.